UNITED STATES PATENT AND TRADEMARK OFFICE
DOCUMENT CLASSIFICATION BARCODE SHEET

ANNOTATION 1

(Substitute)

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WHAT IS CLAIMED IS:

1. An isolated nucleic acid which encodes a cancer cell antigen and which comprises a sequence selected from the group consisting of:

(a) the nucleotide sequence of any one of SEQ ID NOs: 1, 2, 6, 9, 11, 14, 16, 20, 21, 23, 28, 37, 38, 39, 41, 43, and 44;

(b) a nucleotide sequence encoding SEQ ID NO: 22, 32, 40, or 42; and

(c) a nucleotide sequence complementary to (a) or (b).

2. The isolated nucleic acid of claim 1, wherein the cancer cell antigen comprises one or more MHC class I binding epitopes.

3. The isolated nucleic acid of claim 1, wherein the cancer cell antigen has a capability to elicit cytotoxic T cell lysis.

4. An isolated nucleic acid comprising a nucleic acid sequence that is at least 70% identical to the sequence of the nucleic acid of claim 1, and which encodes a cancer cell antigen comprising one or more MHC class I binding epitopes.

5. The isolated nucleic acid of claim 4, wherein the nucleic acid sequence is at least 90% identical to the sequence of the nucleic acid of claim 1.

6. The isolated nucleic acid of claim 4, wherein the cancer cell antigen has a capability to elicit cytotoxic T cell lysis.

7. An isolated nucleic acid encoding a cancer antigen comprising one or more MHC class I binding epitopes, which nucleic acid hybridizes to the complement of the nucleic acid of claim 1 under the following stringent conditions: a final wash in 0.1X SSC at 65°.

8. The isolated nucleic acid of claim 7, wherein the cancer cell antigen has a capability to elicit cytotoxic T cell lysis.

28. The vaccine of claim 27, wherein the one or more MHC-binding epitopes are selected from the group consisting of an HLA-A0201 binding epitope, an HLA-24 binding epitope, an HLA-A3 binding epitope, an HLA-A1 binding epitope, an HLA-B7 binding epitope, and combinations thereof.

29. The vaccine of claim 28, wherein the antigen comprises SEQ ID NO:22, or MHC class I binding fragment thereof.

30. The vaccine of claim 26, further comprising a capability to elicit a humoral or cytotoxic T lymphocyte response to the antigen.

31. A method for treating cancer, which comprises administering to a subject in need thereof a vaccine comprising a therapeutically effective amount of a vaccine of claim 26.

32. The method of claim 31, wherein the vaccine is administered in combination with a chemotherapeutic agent.

33. A monoclonal antibody or antigen binding fragment thereof, which specifically binds to the antigen of claim 21.

34. The monoclonal antibody of claim 33 which is a chimeric, human, or humanized antibody.

35. A diagnostic reagent comprising an antibody or antigen binding fragment of claim 33 and a detectable label.

36. A therapeutic reagent comprising an antibody or antigen binding fragment of claim 33 and an effector moiety bound.

37. The therapeutic reagent of claim 36, wherein the effector moiety is a radionuclide, an enzyme, a cytotoxin, a growth factor, or a drug.

38. A method for treating cancer, which comprises administering to a subject in need thereof a therapeutically effective amount of an antibody or antigen binding fragment of claim 33.

39. The method of claim 38, wherein the antibody is administered in combination with a chemotherapeutic agent.

40. A method for treating cancer, which comprises administering to a subject in need thereof a therapeutically effective amount of a therapeutic reagent of claim 36.

41. The method of claim 40, wherein the therapeutic reagent is administered in combination with a chemotherapeutic agent.

42. A monoclonal antibody or antigen binding fragment thereof that specifically binds Anat-2 antigen.

43. The monoclonal antibody of claim 42 which is a chimeric, human, or humanized antibody.

44. A diagnostic reagent comprising an antibody or antigen binding fragment of claim 42 and a detectable label.

45. A therapeutic reagent comprising the monoclonal antibody or antigen binding fragment of claim 42 and an effector moiety.

46. The therapeutic reagent of claim 45, wherein the effector moiety is a radionuclide, an enzyme, a cytotoxin, a growth factor, or a drug.

47. The therapeutic reagent of claim 46, wherein the radionuclide is ^{90}Y or ^{131}I.

48. The monoclonal antibody or antigen binding fragment of claim 42, which does not specifically bind to Anat-1, Anat-3 or Anat-4.

49. A method of treating cancer comprising administering to a subject in need thereof a therapeutically effective amount of the antibody or antigen binding fragment of claim 42.

50. The method of claim 49, wherein the antibody is administered in combination with a chemotherapeutic agent.

51. A method of treating cancer comprising administering to a subject in need thereof a therapeutically effective amount of the therapeutic reagent of claim 45.

52. The method of claim 51, wherein the therapeutic agent is administered in combination with a chemotherapeutic agent.